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**Ferren et al.**

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(54) **PARAMETER-BASED NAVIGATION BY A LUMEN TRAVELING DEVICE**

(75) Inventors: **Bran Ferren**, Beverly Hills, CA (US);  
**W. Daniel Hillis**, Encino, CA (US);  
**Roderick A. Hyde**, Redmond, WA (US);  
**Muriel Y. Ishikawa**, Livermore, CA (US);  
**Edward K. Y. Jung**, Bellevue, WA (US);  
**Eric C. Leuthardt**, St Louis, MO (US);  
**Nathan P. Myhrvold**, Bellevue, WA (US);  
**Thomas J. Nugent, Jr.**, Bellevue, WA (US);  
**Elizabeth A. Sweeney**, Seattle, WA (US);  
**Clarence T. Tegreene**, Bellevue, WA (US);  
**Lowell L. Wood, Jr.**, Bellevue, WA (US);  
**Victoria Y. H. Wood**, Livermore, CA (US)

(73) Assignee: **Gearbox, LLC**, Bellevue, WA (US)

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(58) **Field of Classification Search**

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See application file for complete search history.

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*Primary Examiner* — Patricia Mallari

*Assistant Examiner* — Karen Toth

(57) **ABSTRACT**

Methods of controlling the operation of a device traveling in a body tube tree, including sensing parameters from possible directions of travel and selecting the direction of travel based on the sensed parameters, implemented with a control system located partially or fully on the lumen traveling device. Various actions can be performed by the device for, e.g., medical or therapeutic purposes. Machine-readable media including instructions for performing the methods are also described.

**17 Claims, 99 Drawing Sheets**

